Lead Paint

Lead is a heavy, gray metal. Historically lead has been added to paints because it helped them dry faster. Lead-based paint also was preferred because it made a coating that stood up to wear and tear and weather changes. Today it is classified as a toxic substance and is known to cause adverse health effects in humans and the environment.

The work practices involved in removal of lead based paint have taken several forms. These have included chemical removal, mechanical removal, and replacement of the substrate. The waste generated by the removal of lead-based paint may be classified as hazardous waste if an analytical procedure called Toxicity Characteristic Leaching Procedure (TCLP) results in the presence of lead in amounts greater than 5 parts per million. The TCLP test method used to measure the leachable content is a laboratory procedure that was designed to simulate the conditions found in a sanitary landfill.

SAMPLING

An important part of obtaining accurate results is field sampling. A sampling plan must be developed prior to work beginning. Sampling from the site rather than containers is preferred. A random sampling procedure is preferred. This can either be done in space or time. To perform a random sampling in space, an imaginary grid is drawn on the ground or containment deck and four squares are randomly chosen. The samples are taken from the four squares. To perform a random sampling in time, the samples are taken from the same location but at different times. This method is more appropriate in cases where debris is continuously cleaned up. Samples are taken randomly in time as the waste drums are filled.

Obtaining a representative sample from a pile or container requires the use of a thief sampler or a trier. A thief sampler is a tube within a tube with holes on one side of each tube. The tubes are rotated so the holes do not line up . It is inserted into the pile and one tube rotated so the holes line up. Once the sample falls into the inner tube, it is rotated and withdrawn from the pile. A thief sampler works well with dry materials. A trier is basically a half tube that is inserted into a pile, rotated to cut a core, and extracted. Triers work well with moist or densely packed materials. **Waste material should not be combined with other bridges waste.** Each bridges waste should be sampled separately. It may be found that one source of debris is hazardous while the other is not. Combining wastes may result in a larger quantity of hazardous waste. Samples should be taken as soon as debris is generated.

TESTING

The results of the laboratory test are only as good as the samples which are submitted. U.S. EPA test procedures require that at least four samples be randomly taken and analyzed. The results obtained are then averaged and the confidence interval (a statistical measure of variability) is calculated. If the average plus the confidence interval are below the regulatory limit (5.0 ppm for lead), the material is non-hazardous. While obtaining four samples for analysis is required, it is not necessary to analyze all four

samples. **Analysis of one sample is sufficient to classify the debris as a hazardous waste. A minimum of four samples is only needed to classify a waste as non-hazardous.** IDEM requires that sampling be performed at uniform representative sites on the bridge and that the testing procedure uses the TCLP analytical procedure. The testing method depends on the landfill identified as the potential disposal site. The landfill will require certain testing procedures be followed. Testing should be done during sandblasting, when 75% of the job is done.

TCLP analysis of the residue determines whether it is hazardous waste. Sandblasting residue at minimum, is a solid waste, requiring disposal at an approved solid waste landfill. When analysis results are below the regulatory limit for the metals, it is a solid waste. If the analysis demonstrates any of the TCLP metals in excess of 85% of the hazardous waste limits, the waste stream must be certified by the Office of Solid and Hazardous Waste on a case-by-case basis prior to disposal. Take lead as an example:

1. Levels of lead less than 5 ppm are classified as industrial waste.
2. Levels of lead greater/equal to 4.25 ppm and less than 5 ppm require analytical procedures prescribed by IDEM on a case by case basis. Follow up testing may be required.
3. Levels of lead greater than 5 ppm is classified as a hazardous waste.

CONTAINMENT

Like asbestos, lead debris is required to be contained in a manner which prevents lead dust from escaping into the atmosphere. A containment system includes the cover panels, screens, tarps, scaffolds, supports, and shrouds used to enclose an entire work area or a paint removal tool. The purpose is to minimize or prevent the debris generated during surface preparation from entering into the environment, and to facilitate the controlled collection of the debris for disposal. Containment systems may also employ the use of grounds covers or water booms. INDOT requires that the bridge be contained according to the Steel Structure Painting Council, Lead Paint Removal Guide 6. Containment of **zinc based paint** sandblasting residue is required at a **minimum** of **class 3A** while **lead based paint** requires at a **minimum class 2A** (Steel Structures Painting Council *Lead Paint Removal Guide 6 (CON*). Class 3A consists of air penetrable walls, flexible framing, partially sealed joints and entryways and exhaust air filtration. Class 2A consists of air impenetrable walls with rigid or flexible framing, fully sealed joints, partially sealed entryways, and exhaust air filtration. **Containment of residue is required even if testing does not result in a classification of the residue being hazardous waste.** Failure to contain residue is a violation and can also result in a larger volume of material classified as hazardous waste.

WATER CONCERNS

A number of bridges are constructed over waterways. There is an obvious impact on water quality when paint and concrete spall off the bridge surfaces and fall into the water. When a construction, repair, or demolition project is conducted, there are greater opportunities for serious contamination of a stream's water qualities. At the minimum, there are requirements for containment under and outside the bridge structure for collecting the debris as it is generated by the repair or demolition work activities. This debris can be highly toxic to aquatic life and can cause considerable loss of aquatic life. Fish kills of virtually all of the fish have been reported from bridge paint dropping into the water. Complete containment is required and should be checked daily to assure compliance with requirements for clean water.

Concrete also can cause serious damage to the aquatic life in a waterway. Concrete contains lime and other minerals which are present in nature, but which are not present in the concentrated forms found in the roadway materials. These minerals also can contribute to fish kills and other detrimental effects if those materials are allowed to enter the waters of a stream, creek, or river.

SITE STORAGE

The **presence of lead** in the sandblast debris requires that **site storage requirements for hazardous waste be followed whether or not the waste is found to be hazardous**. The lead-containing debris must be stored in a manner that will not allow entry of the material into the environment.

The storage site must be secure. Security includes protection of entry of hazardous material into the environment and security of the waste from vandalism. The storage site must be on well drained ground that is not subject to flooding. Prominent warning signs should be displayed around the perimeters. The waste must be stored in containers that are capable of being securely closed. The tops must be kept on the containers so that rain does not enter nor does the material blow out. Drums cannot be stored more than two high or two wide. Each container must have labels identifying the contents and dates of accumulation. The labels must be easily visible.

RCRA regulates the amount of time a hazardous waste can be accumulated on site. A large quantity generator can accumulate waste for no more than 90 days. A 30-day extension can be obtained from the IDEM if problems occur. Accumulation time starts when debris is first placed in the container. Therefore, it is important that the date waste is first placed in container is written on the label and waste removal be performed in a timely manner.

DISPOSAL

Restricted (hazardous) waste requires notification and certification. The generator's notification and certification consists of the manifest, where the identity of the waste is recorded.

If the paint residue tests hazardous, INDOT must obtain an EPA identification number from IDEM. Hazardous waste cannot be transported for disposal without this number. Obtain an EPA identification number by sending completed forms to:

Indiana Department of Environmental Management
Office of Solid and Hazardous Mgmt.
P.O. Box 7035
Indianapolis, IN 46207-7035

A hazardous waste manifest signed by the generator (INDOT) must accompany each load of hazardous waste from cradle to grave. A copy of the manifest must be retained for 3 years by law. All waste containers must be labeled with an EPA Hazardous Waste Label and DOT shipping labels consistent with the hazards posed by the material (corrosive, flammable, etc.). Consult the Division of Operations Support regarding all hazardous waste management. Persons involved with hazardous waste generation or management must receive specialized training annually.

Remember, hazardous waste has very specific storage time limits. If you have hazardous waste paint residue stored on your project site, make sure that the contractor is obtaining the appropriate test and manifests in a timely manner so that the site does not exceed the time limitations (see the Hazardous Waste Section for details). Also remember that while awaiting disposal, waste paint residue should be stored in appropriate containers. These containers should be always kept closed, be weather-proof and tamper-proof. A container must not be stored in such a way that causes its contents to leak. If a container leaks or is in poor condition, the contents of that container must be placed in a sound container. Since INDOT is the owner/generator of the waste, it is the project engineer's responsibility to ensure that the contractor is complying with all of these regulations or INDOT is liable to fairly severe penalties.

May 30, 1996

MEMORANDUM

To: District Directors
District Construction Engineers
District Area Engineers
Project Engineers/Supervisors
Environmental Coordinator

From: Timothy D. Bertram, Chief
Operations Support Division

Re Statewide Industrial Waste Certification for non-hazardous sandblast debris and paint chips from heavy equipment and various bridge and overpass projects

Attached is a copy of the Indiana Department of Environmental Management's Industrial Waste Certification no. 60347. This industrial waste certificate can be used statewide by INDOT for the disposal of non-hazardous paint residue from bridge painting contracts. Individual Industrial Waste Certification for bridges is no longer necessary. Please utilize this certificate for all of INDOT's disposal of non-hazardous paint waste from the blasting of bridges. The Industrial Waste landfill should be provided a copy of this certification along with the advanced notification of intended disposal, and all TCLP analytical results. Provide a disposal notification form with each load disposed. A copy of an *Industrial Waste Disposal Notification* form is also included. A separate *Industrial Waste Disposal Notification* form must be completed for each job site. At the industrial waste landfill, at least one end of the container shall be able to be opened so the waste may be readily identified. A list of acceptable industrial waste landfills where this non-hazardous waste can be sent is also included.

If the TCLP analytical results indicate that any of the TCLP metals exceed 85% of the hazardous waste limits, this waste stream must be certified by IDEM's Office of Solid and Hazardous Waste Management on a case by case basis prior to disposal. IDEM may require additional analytical tests prior to granting disposal approval.

Note, this certificate is not to be utilized for the disposal of hazardous paint waste. Hazardous waste must continue to be disposed of at a hazardous waste facility utilizing a hazardous waste manifest after an EPA ID Number has been obtained.

This certification can also be used by INDOT facilities to dispose of paint debris from the sandblasting of heavy equipment. The certification is good for five years. For further information, contact Phyllis Hockett at (317) 232-5112.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Evan Bayh
Governor
Kathy Prosser
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

Office of Solid and Hazardous Waste Management
Industrial Waste Certification No. 60347

Pursuant to 329 IAC 10-8-8, the following generator:

INDOT
100 North Senate
IGC-N, Room 848
Indianapolis, Indiana

has received certification from the Indiana Department of Environmental Management, Office of Solid and Hazardous Waste Management, for the following waste stream(s):

non-hazardous sandblast debris and paint chips from blasting of heavy equipment and various bridge and overpass projects
(see special conditions on reverse side)

These wastes may be disposed at any sanitary landfill specified under 329 IAC 10-8-2 as an acceptable site for the disposal of waste which is certified as an industrial waste. A list of acceptable disposal sites is available from the Solid Waste Permit Section at the above address or by calling 317/232-4473. General and Special Conditions that apply to this certification are indicated on the reverse side.

This certification shall expire exactly five years from the effective signature date below.

Gregory C. Lorenz

Gregory C. Lorenz, Chief
Special Waste Section
Solid and Hazardous Waste Management

5/29/96
Date

General Conditions That Apply to All Industrial Waste Certifications:

1. The generator and/or the hauler shall provide the landfill with a copy of this certification along with advanced notification of intended disposal and provide a disposal notification form with each load disposed.
2. If nuisance or pollution conditions are created, immediate corrective action shall be taken.
3. Waste material)s) accepted under this certification shall be included on the Industrial Waste Monthly Report submitted to this Office by the landfill.
4. Industrial Waste(s) may not be disposed at any landfill subject to corrective action under 329 IAC 10-21-13 or at any landfill which fails to maintain compliance with 329 IAC 10.
5. It is the generator's responsibility to properly dispose of all wastes at acceptable sites. It is also the responsibility of the disposal site to notify the generators if the site's disposal status changes.
6. Any changes in the raw materials, the process(es) generating the waste, or the characteristics of the waste stream(s) shall be reported in writing to the IDEM and the disposal site prior to further disposal. If it is determined that the change is substantial, this certification shall be voided by written notification from IDEM.
7. The waste(s) shall not contain free liquids.
8. The waste(s) shall not present a fire or explosion hazard.

Industrial Conditions That Are Required For Disposal of the Waste(s) Will Be Indicated By The Reviewer's Initials:

TLB 1. The generator shall provide individual TCLP metals analysis for each project to the landfill prior to disposal. If the analysis demonstrates any of the TCLP metals in exceedance of 85% of the hazardous waste limits (pursuant to 329 IAC 3.1-6-1(8)), this wastestream must be certified by this Office on a case-by-case basis prior to disposal. Additional analytical may be required by IDEM prior to granting such approval.

TLB 2. A separate Disposal Notification must be completed for each job site and the disposal site must identify each job site on the Special Waste Monthly Report.

TLB 3. At least one end of the container shall be able to be opened so that the waste may be readily identified.

TLB 4. Prior to disposal, the waste shall not be stored in manner that violates 329 IAC 10-4-2.

Anticipated Disposal Quantity: maximum of 120 cubic yards (91.8 cubic meters) per project

Tracy L Barnes 5/29/96
Reviewer/Date

cc: B. Janice Osadczuk, INDOT

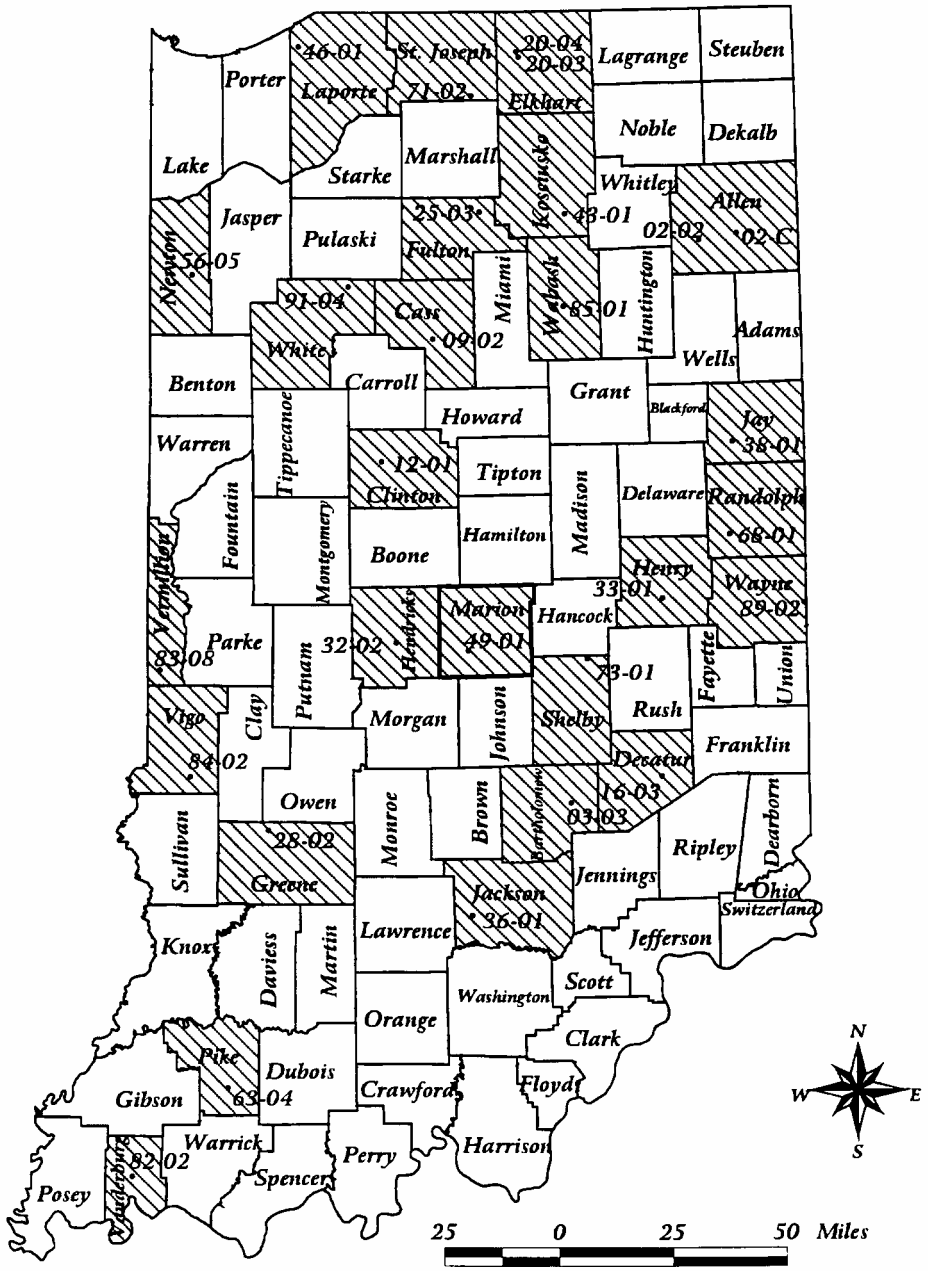
HAZARDOUS WASTE GENERATOR STATUS

QUANTITY PER MONTH	< 220 lbs. (<25 gal.)	220 - 2200 lbs. (25-300 gal.)	>2200lbs. (>300 gal.)
STATUS	CESQG (Exempt)	SQG	LQG
EPA ID # REQUIRED	NO	YES	YES
MANIFEST REQUIRED	NO	YES	YES
STORAGE TIME	Unlimited	180 days	90 days
MAXIMUM STORAGE	2200 lbs.	13,200 lbs.	unlimited
TECHNICAL STANDARDS	NO	Limited	YES

MAXIMUM CONCENTRATION OF RCRA METALS FOR THE TOXICITY CHARACTERISTIC

EPA HAZ. WASTE NO.	CHARACTERISTIC/CONTAMINANT	REG. LEVEL (mg/l)	85%
D004	ARSENIC	5.0	4.25
D005	BARIUM	100.0	85.00
D006	CADMIUM	1.0	0.85
D007	CHROMIUM	5.0	4.25
D008	LEAD	5.0	4.25
D009	MERCURY	0.2	0.17
D010	SELENIUM	1.0	0.85
D011	SILVER	5.0	4.25

Special Waste Disposal Sites



Indiana Industrial Waste Disposal Sites

Facility ID #	Facility Name	County Name	Waste Type	Restriction	Phone #
03-03	Bartholomew County Landfill	Bartholomew	SpAP	-	812/376-2614
63-04	Blackfoot RDF	Pike	SpAP	-	812/789-2647
73-01	Caldwell Landfill	Shelby	H SpAP	-	317/763-1238
02-C	Chemical Waste Mgmt.	Allen	SpAP	-	219/447-5585
25-03	County Line Landfill	Fulton	SpAP	-	219/892-6483
16-03	Decatur Hills Landfill	Decatur	SpAP	-	812/663-6703
46-01	Deercroft RDF	LaPorte	SpAP	-	219/879-4653
20-03	Earthmovers Landfill	Elkhart	SpAP	-	219/875-5232
20-04	Elkhart County Landfill	Elkhart	SpAP	-	219/522-2581
33-01	Hayes Landfill	Henry	SpAP	-	317/529-2337
38-01	Jay County Landfill	Jay	SpAP	-	219/726-2871
82-02	Laubscher Meadows Landfill	Vanderburgh	SpAP	-	812/963-4690
91-04	Liberty Landfill	White	SpAP	-	219/278-7139
12-01	Montgomery Landfill	Clinton	SpAP	-	317/654-8144
02-02	National Serv-All Landfill	Allen	SpAP	R	317/248-4117
89-02	New Paris Pike Landfill	Wayne	SpAP	-	317/983-7440
56-05	Newton County Landfill	Newton	SpAP	-	219/394-2808
09-02	Oak Ridge RDF	Cass	SpAP	-	219/722-5771
71-02	Prairie View RDF	St. Joseph	SpAP	-	219/546-4475
68-01	Randolph Farms Landfill	Randolph	SpAP	-	317/853-5714

43-01	Ransbottom Landfill	Kosciusko	SpAP	R	219/839-0300
36-01	Rumpke (Medora) Landfill	Jackson	SpAP	R	812/966-2017
49-01	Southside Landfill	Marion	SpAP	-	317/247-6808
32-02	Twin Bridges RDF	Hendricks	SpAP	-	317/745-2878
84-02	Victory Environmental-Yaw Hill	Vigo	SpAP	R	812/299-9227
85-01	Wabash Valley Landfill	Wabash	SpAP	R	219/563-8479
83-08	West Clinton Landfill	Vermillion	SpAP	R	317/832-0136
28-02	Worthington Landfill	Greene	SpAP	R	812/875-2545

Sp: Landfills that may accept industrial waste which has been certified as such by the IDEM.

A: Landfills that have a Variable Source Asbestos Approval and can accept properly packaged asbestos. Additional permits are not necessary for normal asbestos disposal at these landfills, but asbestos disposal notification forms are required.

P: Landfills that are pre-approved to accept contaminated soils and cleanup debris from the spill or leaking of diesel oil, fuel oil, asphalt, oils not containing PCB's, hydraulic fluid, jet fuel, kerosene, and gasoline. No additional permits are needed, but petroleum spill disposal notification forms are required.

H: Permitted hazardous waste disposal facility. Industrial wastes may be disposed without prior approval.

R: This landfill may be operating cells with more than one type of cell design; however, industrial waste may be disposed of in cells meeting 329 IAC 2 or Subtitle D standards only, unless written approval has been obtained from the IDEM on a case-by-case basis, such approval will be indicated under the industrial conditions portion on the generator's Industrial Waste Certification.

Industrial Waste Certification Disposal Notification

Notification Required by SEA 372

Generators who hold valid certifications for waste going to subtitle D cells must make notification in accordance with SEA 372 before disposal of the first load of waste that occurs after July 1, 2000.

Generator Information:

Name:

Mailing Address:

City: State: Zip:

Generator Location Description:

Street Address:

Disposal Facility Information:

Name: Randolph Farms, Inc. OPP. No. 68-01

Mailing address: 7256 West C.R. 600 South, Modoc, IN 47358
Location: East of State Rd. 1, ¾ of a mile on C.R. 600 South

The cells or units that the industrial waste is being disposed in meets the current state and federal design and operational requirements (subtitle D) or has approval from the IDEM for disposal in non-subtitle D cells.

Name of Waste: ***Certification Number:***

Special Handling Conditions:

Is the industrial waste subject to any special handling requirements?

Check all that apply.

- ☐ Generate fugitive dust
- ☐ Hot or capable or generating heat
- ☐ Regulated asbestos-containing material
- ☐ Regulated as a PCB waste
- ☐ Other (please explain below)

_____

Certification:

"The waste described in the certification issued by the IDEM (certification number listed above) is not a hazardous waste as described in 40 CFR 261, nor is it any other type of unauthorized waste."

_____
Generators Signature Name (typed or printed)

_____
Title Date

Pursuant to Solid Waste Rule 329 IAC 10-20-29 (Facility responsibility for industrial waste disposal) and 329 IAC 10-8-9 (Generator responsibility for industrial waste disposal), all industrial waste delivered for disposal shall be accompanied by a

disposal notification. As stated in each of the respective cites, the generator must provide the disposal facility with a written disposal notification for each load of industrial waste to be disposed of and the solid waste disposal facility operator shall check each load of industrial waste with the information provided. The solid waste disposal facility shall also maintain the disposal notifications until such time as certification of post-closure is deemed acceptable for the site.

Pursuant to Solid Waste Rule 329 IAC 10-14-1 (Records and reports), all solid waste facilities shall submit to the commissioner a quarterly report which includes the origin of the solid waste complied by county or by state if the waste originated outside of Indiana. The origin of the waste must be provided to the facility by the hauler and the hauler must estimate, by percent, the composition of a mixed load. Therefore, the county and/or state of origin is now required information on the industrial waste disposal notification (see above).

The quarterly report, however, does not replace the quarterly report which is required from all solid waste facilities in accordance with Solid Waste Rule 329 10-20-29 (d), that receive industrial waste. If you have any questions regarding this matter, please contact this office at (317) 232-3111.